

Work Order ID 86027

June-19-12 4:05:47 PM

86027

Page 1

Item ID: D4062-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Upper Tank Support

Start Date: 19/06/2012 Start Qty: 6.00

6

Cust Item ID:

Required Date: 03/07/2012 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/06/20

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D4062

C

6

100

0.00

100

Waterjet

Memo

0.00

FLOW CNC Waterjet

CUT BLANK AS PER FILE D4062-1_BLANK

u#m w i

B12-7-6

102

QC2- Inspect parts off machine FAI/FAIB

0.00

102

QC

Memo

0.00

Quality Control

B12-7-6

105

0.00

105

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

MILL AS PER DWG AND FOLIO FA949

DWG REV: C

FOLIO REV: AA

10/12

12/07/14

5

1

W/O: 86027		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D 4062-1 PAR #: _____ Fault Category: Machining NCR: Yes No DQA: init Date: 12/07/24
 Resolution: _____ Disposition: Scrap QA: N/C Closed: ck Date: 12/7/24

NCR: 12-1611		WORK ORDER NON-CONFORMANCE (NCR) 237.8						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/07/14	105	Tool went through an inside wall OPERATOR ERROR	1207.16 QSI 042	PART IS OK BUT ESTHETICALLY UNACCEPTABLE. SCRAP NO NO REPLACE.	12/07/14 RD	12/07/14	1207.16 QSI 042	S 12/07/14

NOTE: Date & initial all entries

Work Order ID 86027

June-19-12 4:05:47 PM

86027

Page 2

Item ID: D4062-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Upper Tank Support

Start Date: 19/06/2012 Start Qty: 6.00

6

Cust Item ID:

Required Date: 03/07/2012 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan Code Accept Qty Reject Qty Reject Number Insp. Stamp

106

QC2- Inspect parts off machine FAI/FAIB

0.00

106

QC

Memo

0.00

PD / RP

12/07/14

5

1

Quality Control

130

QC8- Inspect parts - second check

0.00

130

QC

Memo

0.00

DAS
14
2-89

OK 12/07/14

5

Quality Control

140

Identify as per dwg & Stock Location: MM

0.00

140

Packaging

Memo

0.00

5

12.07.18

Packaging

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 86027

June-19-12 4:05:47 PM

86027

Page 3

Item ID: D4062-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Upper Tank Support

Start Date: 19/06/2012 Start Qty: 6.00

6

Cust Item ID:

Required Date: 03/07/2012 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

QC21- Final Inspection - Work Order Release

0.00

150

QC

Memo

0.00

Quality Control

12/17/2012
MLJ 12/07/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

June-19-12 4:05:50 PM

Page 1

Work Order ID: 86027

86027

Parent Item: D4062-1

D4062-1

Parent Item Name: Upper Tank Support

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A NEW ISSUE 10-06-22 JLM VERIFIED BY:DD IPP
REV:B AS PER REV B 11-11-23 JLM VERIFIED BY:DD IPP REV:C
AS PER REV C 12-03-08 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MUHMWB10		Purchased		No			sf	116.8100		21.6	22		

MUHMWB10

**

B12-7-6

UHMW 1" Black

Location

Loc Qty

Loc Code

MAT018

93.7

120972

1

121346

27.1

121954

65.6

MAT019

1.5

118814

1.5

ST052

21.60999474

121277

12.8

121278

8.80999474

122286

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 86027
Description: Lower Tank Support		Part Number: D4062-1
Inspection Dwg: D4062	Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.00	+/-0.030	1.001	✓		VERN	PHD-01
0.13	+/-0.030	0.138	✓		Mic	118-120
2.00	+/-0.030	2.000	✓		VERN	PHD-01
1.00	+/-0.030	1.002	✓		"	"
0.35	+/-0.030	0.352	✓		"	"
R0.25	+/-0.030	0.250	✓		Rad gage	
0.38	+/-0.030	0.370	✓		VERN	PHD-01
0.38	+/-0.030	0.373	✓		"	"
1.38	+/-0.030	1.375	✓		"	"
R0.25	+/-0.030	0.250	✓		Rad gage	
31.38	+/-0.030	31.375	✓		M TAPE	PHD-11
28.30	+/-0.030	28.300	✓		M TAPE	"
26.30	+/-0.030	26.300	✓		"	"
20.83	+/-0.030	20.830	✓		"	"
15.51	+/-0.030	15.500	✓		"	"
10.19	+/-0.030	10.187	✓		"	"
5.07	+/-0.030	5.07	✓		"	"
3.07	+/-0.030	3.07	✓		"	"

Measured by: RD/29	Audited by: DAS 14	Preliminary Approval:
Date: 12/07/14	Date: 12/07/14	Date:

Rev	Date	Change	Revised by	Approved
A	12.02.01	New Issue	KJ	
B	12.05.15	Dimensions updated per Dwg Rev C	KJ	
C	12.06.08	Part description corrected	KJ	

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

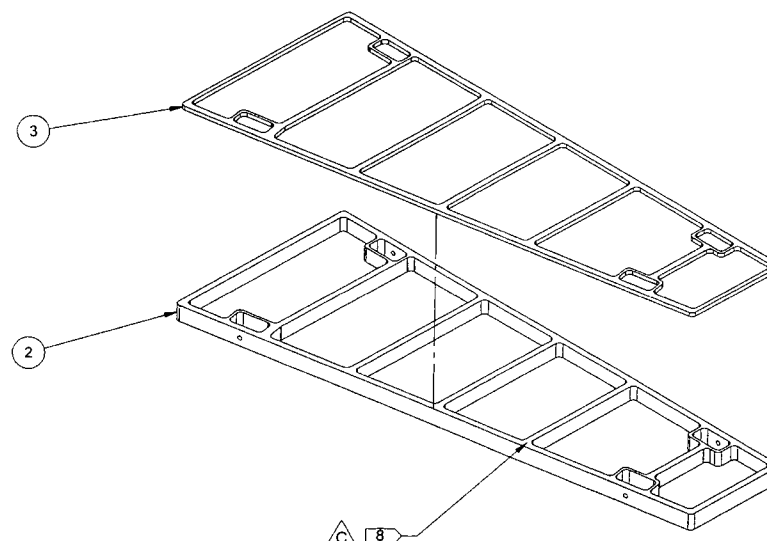
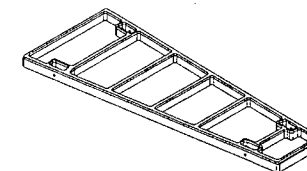
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

ITEM NO.	QTY. -041	PART NUMBER	DESCRIPTION
1	X	D4062-041	TANK SUPPORT ASSEMBLY
2	1	D4062-1	LOWER TANK SUPPORT
3	1	D4062-3	UPPER TANK SUPPORT



D4062-041 TANK SUPPORT ASSEMBLY







NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 2.91 lbs
- 8) BOND ITEMS 2 & 3 TOGETHER USING PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 06027 MCT

12/06/20

2012-03-02

C	REMOVE HARDWARE TO ATTACH ITEMS 2 & 3. REMOVE CBORE.	DC	11.12.14
B	MODIFIED DIMS & DESIGN OF -1, ADDED -3/-041	DC	11.09.29
A	NEW ISSUE	HS	10.07.26
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED		DRAWING NO.	REV.
MFG. APPR.		D4062	SHEET 1 OF 3
APPROVED		TITLE	SCALE
DE APPR.		TANK SUPPORT	NT
DATE	11.12.14	COPYRIGHT © 2010 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

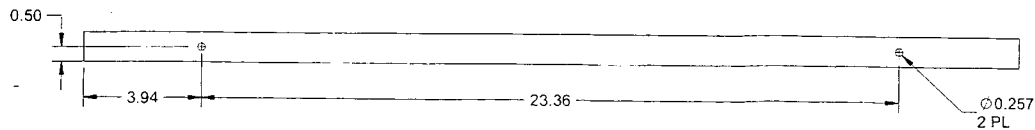
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

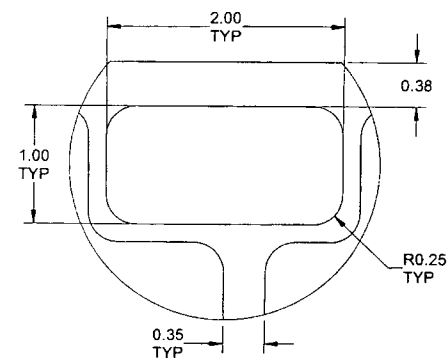
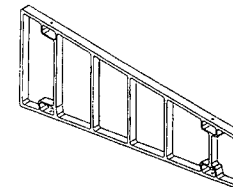
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

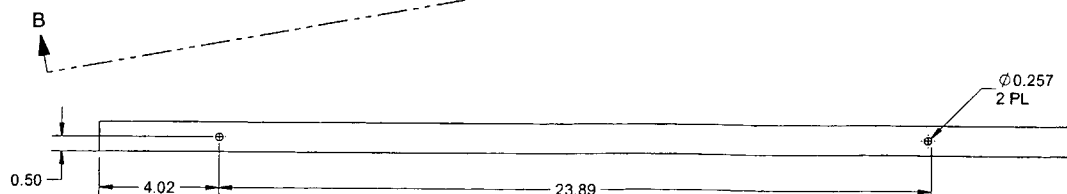
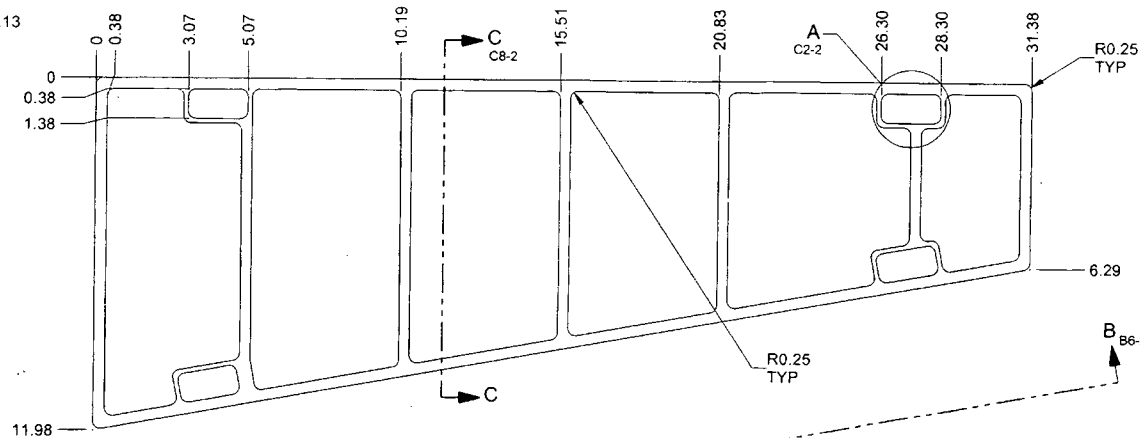
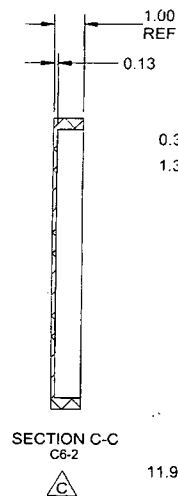
NOTE: Date & initial all entries



86027



DETAIL A
SCALE 4X
C4-2









VIEW B-B
B5-2

NOTES:

- 1) MATERIAL: BLACK UHMW TIVAR 1000 VIRGIN MATERIAL SHEET, 1.00 THICK
REF DART SPEC MUHMB10
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 2.53 lbs
- 8) CUT PER D4062-1.DXF
- 9) MAXIMUM INSIDE RADIUS = 0.250

D4062-1 LOWER TANK SUPPORT

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4062	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		TANK SUPPORT	NTS
DATE	11.12.14	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

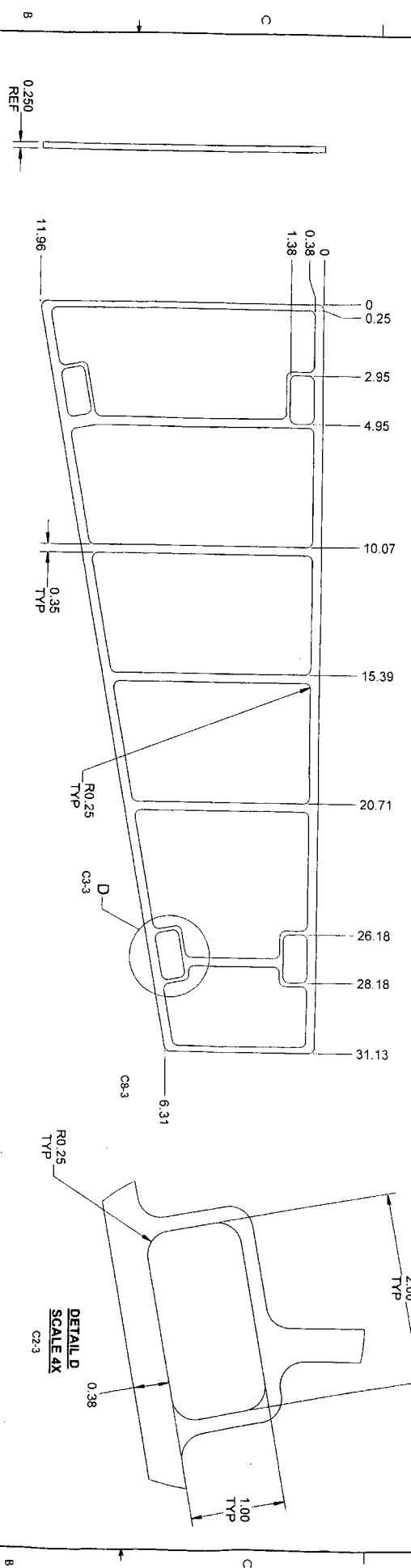
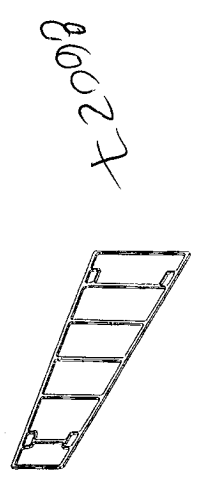
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4062-3 UPPER TANK SUPPORT

- NOTES:**
- 1) MATERIAL: BLACK UHMW TYVAR 1000 VIRGIN MATERIAL SHEET, 0.25 THICK
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART OSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: 0.37 LBS
 - 8) CUT PER D4062-3 DXF

DESIGN		DART AEROSPACE LTD
DRAWN	<i>DC</i>	HAWKESBURY, ONTARIO, CANADA
CHECKED	<i>DC</i>	
MFG. APPR.	<i>DC</i>	
APPROVED	<i>DC</i>	
DE APPR.	<i>DC</i>	
DATE	11.12.14	
TITLE	TANK SUPPORT	
REV. C		
SHEET 3 OF 3		
SCALE	NTS	

RELEASED
11 2012-03-02
NM

THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS TO BE USED FOR ANY PURPOSE OR IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries